To elaborate, I divide my reply comments into three parts corresponding to these three conclusions.

The Threat of Predatory Pricing

Professor Hausman flatly concludes that predatory pricing "is an extremely unrealistic outcome in modern telecommunications."[1] His view rests on the notion that "modern telecommunications networks require substantial sunk costs," which create "both a barrier to entry and a barrier to exit" for the competing firm.[2] The prospects are dim for the incumbent firm to drive out a competitor by predatory pricing and keep the competitor out, according to Professor Hausman, because "barriers to re-entry are non-existent."[3] As he explains:

> Economic predation is pricing below marginal (incremental) cost so that other competitors will leave the market, thereby allowing the predatory firm to then raise its price and restrict output. For predation to succeed, the firm attempting predation must be able to raise its prices to monopoly levels after competitors exist and to sustain those prices for a long period of time. Barriers to re-entry of the former competitors must exist, and entry of new competitors must not occur. This lack of competition then allows the predating firm to earn back its losses from the predatory period.[4]

For two reasons, according to Professor Hausman "[t]he economic factor of high fixed to marginal costs makes a predatory pricing attempt against new entrants extremely unlikely to occur."[5] First, because of the new entrant's "very low marginal costs" once its fixed

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[1] Statement of Professor Jerry A. Hausman at 8, appended to *Comments of BellSouth Telecommunications, Inc.*, December 11, 1995.

[2] *Id.*

[3] *Id.*

[4] *Id.* at 9.

[5] *Id.*

network costs are incurred, the incumbent would have great difficulty driving the entrant out of the market. The entrant would remain in the market so long as it could cover its "very low" marginal costs, while the predating firm would have to spend "enormous sums" to price far below its own total cost.[6] Thus, because of the entrant's high sunk cost and its low marginal or continuing cost of operating the network, the incumbent would face an expensive battle in trying to force out the entrant.

Second, even if the entrant exits the market, the incumbent would have little assurance that it, or some other firm, would not re-enter the market, once the incumbent raises its prices to recover its earlier losses. As Professor Hausman explains:

> Once the competing network has been built, an incumbent firm cannot realistically believe that it can price to keep a competitor from re-entering the market if it raises its prices because the network will remain in place (since its value in alternative uses is near zero). Thus, barriers to re-entry are non-existent.[7]

Professor Hausman's argument is faulty on three grounds: (a) today's modern networks cannot be assumed to have "very low" marginal costs of operation, (b) he ignores the possibilities for predatory pricing designed to deter the entry of a potential competitor before the new network is built or while it is under construction -- thereby reducing or eliminating sunk costs as a factor in determining the prospects for successful predation, and (c) he fails to take adequately into account the role of government regulation as an important factor in affecting the prospects for successful predation.

Marginal Compared to Fixed Costs. First, his assertion of a low marginal or non-fixed cost of operating the network after its construction can be overturned by a simple appeal

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[6] *Id.*

[7] *Id.*

to the facts. Financial information reported by the LECs and AT&T is most instructive in this regard. Table 1 shows four key financial categories: Total operating expenses as a rough measure of marginal cost incurred in operating the fixed-cost network in place; depreciation and amortization as the annualized cost of the fixed network investment; interest and related items as the interest paid to creditors for investment funds used for the network, and net income as the return to equity. The striking characteristic for both the LECs and AT&T is that operations expenses comprise much more than half of the total, while the fixed cost represented by network depreciation is much smaller.

TABLE 1

Financial Data: Year 1992

	All Reporting LECs		AT&T	
	Billions $	% of Total	Billions $	% of Total
Total operations expenses (minus depreciation and amortization)	46.2	60	28.9	86
Depreciation and amortization	17.4	23	2.2	7
Interest and related items	4.2	5	0.3	1
Net income	9.3	12	2.1	6
Total of items	77.1	100	33.5	100

Source: *FCC Statistics of Communications Common Carriers*: 1992/93, p. 41, line 252; p. 42, line 277; p. 43, lines 309, 317.

To appreciate the relevance of these magnitudes, suppose that a firm seeking to compete with a LEC has the same percentage breakdown as the LECs in Table 1. Suppose, further, that once its network is in place the entrant is subjected to predatory pricing by the incumbent LEC. Under the pressure, the entrant's net income falls to zero and it defaults on its loans, driving interest payments to zero as well. The sunk-cost network remains in

operation, however, either in the hands of the bankrupt entrant or a successor, so long as the operating or non-fixed costs can be covered.

This is small consolation to the network operator seeking to stay in business, however, because these operating expenses are high, not low, as Professor Hausman asserts. Even with the network written off, the entrant could remain in business only if it could cover 60 percent of the total costs that it would have incurred as a thriving, profitable competitive firm. In addition, as the LECs become more competitive, we can anticipate that their financial structures will evolve towards those of AT&T and other competitive carriers, with correspondingly higher relative operating expenses. In other words, marginal cost is high, not low, relative to the network fixed cost. Because the entrant's costs of remaining in business are relatively high, the predator can much more easily drive out the entrant than Professor Hausman would have the Commission believe.

Moreover, the cost of reentry is much higher than Professor Hausman asserts. Even with the (abandoned) network in place, a firm seeking to acquire and operate it would face high operating costs in seeking to compete with the incumbent.

Why are operating expenses such a large part of the total, in contrast to Professor Hausman's assertion? The answer is readily apparent: to succeed, a firm must be expected to spend substantial amounts on marketing and customer support, which together account for 20 percent of operating expenses shown for AT&T in Table 1.[8] Plant specific and nonspecific operations expenses account for another 14 percent,[9] while corporate operations

[8] *Id.* p. 41, lines 257, 262.

[9] *Id.* p. 40, 42, lines 230, 245.

run to 19 percent[10] and access expenses paid to the LECs represent 47 percent.[11] In short, for a variety of non-surprising reasons, the recurring costs of maintaining a viable business enterprise far surpass the sunk costs of the network itself. Professor Hausman's references to "very low marginal costs" and "high fixed to marginal costs" seem almost to imply that the only recurring expenses required after the network is built and its costs are sunk involve, say, the electricity needed for network powering.

Predation as a Deterrent to Entry. Professor Hausman treats predation only after entry has occurred, ignoring its use to discourage entry before costs are sunk. The mere threat of predation may drive the prospective entrant to abandon plans for a new network before the costs are sunk. Or, the entrant might decide to exit the market with the network only partially built. In either case, predatory pricing looms as a far greater threat than Professor Hausman depicts with his assertion that predatory pricing is "not a realistic concern."[12]

Government Regulation as a Stimulus to Predatory Pricing. To be sure, predatory strategies are of questionable plausibility within the context of the unregulated firm free to maximize profits. The presence of monopoly by itself is not enough to trigger a serious threat of cross-subsidy with persistent below-cost predatory pricing in the competitive market. If the firm is able to increase profits by raising prices in its monopoly market, it would do so even in the absence of the market to be subsidized. Presumably, in the absence

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[10] *Id.* p. 42, line 276.

[11] *Id.* p. 41, lines 246. Access expense is particularly significant in reminding us that competing local exchange carriers may also be obliged to pay substantial access charges to the incumbent LECs for a variety of local exchange switching and line facilities. For example, TCG reports that in the New York LATA, 71 percent of its local switched revenues are currently paid to NYNEX for interconnection and related services. *Comments of Teleport Communications Group, Inc.*, December 11, 1995 at 3.

[12] Hausman, *supra* at 8.

of regulation the firm would seek to set prices in its monopoly market to maximize profits, with any higher (or lower) prices resulting in a reduction in profit. If, in this circumstance, the firm finds an opportunity to enter a competitive market, any payments for subsidies to that market would represent an up-front financial loss. In other words, the firm would be unable to further raise prices to its monopoly ratepayers as a way to obtain additional revenues for subsidies elsewhere, for it would already have fully exploited whatever monopoly power it has.[13]

The regulated firm stands in contrast. If it can shift costs from the competitive market to its regulated monopoly market, the up-front costs of predatory pricing would come at the expense of ratepayers rather than of shareholders. Rate-of-return regulation traditionally used by regulatory agencies has been widely criticized precisely on grounds that its "cost plus" approach to regulation enables cost shifting as an anticompetitive strategy.

The Inadequacy of Price Caps as a Safeguard Against Cross-Subsidization

Professor Hausman asserts that while cost misallocation "can be of concern" under rate of return regulation, the "[e]limination of rate of return regulation and its replacement by price caps also removes the ability of a regulated firm to cross subsidize a service to fund its predatory strategy."[14]

Professor Kahn seeks to reinforce this point by emphasizing that the "obvious solution to the problem of potential cross-subsidization therefore, is ... to abandon any remaining

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[13]This is not to say, however, that the unregulated firm is immune from engaging in predatory practices. A comprehensive discussion of the range of plausible predatory strategies is contained in J.A. Ordover and G. Saloner "Predation, Monopolization and Antitrust," in R. Schmalensee and R. Willig, [eds.] *Handbook of Industrial Organization* (North Holland 1989).

[14]Hausman, *supra* at 11.

elements of rate base/rate of return regulation."[15] In its place, he urges "direct regulation of the prices of monopoly services ... breaking the link between those prices and overall company costs, prices and revenues."[16] He goes on to say that "[i]n its pure form [my underlining] direct price regulation [price caps] eliminates any entitlement of regulated companies to recover from monopoly customers any reductions in rate of return resulting from price cuts in competitive markets."[17]

The key questions, then, are how is a "pure" price cap defined?, and do pure price caps as defined, indeed, protect against anticompetitive cross-subsidization? With respect to the first, Professor Kahn says that "competitors [AT&T and cable companies] are subject to "pure" price caps -- indexation for inflation less a productivity offset [my underlining]."[18] In contrast, he criticizes the existing price cap regimes imposed on the LECs on the grounds that they "continue to incorporate a number of elements of rate of return regulation such as 'sharing' and 'lower bound adjustments.'"[19] He goes on to say, consequently, that "[t]he ultimate reform is clearly to sever the link between costs and rates and to subject the LECs to "pure" price caps, just as the Commission has already done in the case of AT&T and the cable industry."[20]

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[15] *Affidavit of Alfred E. Kahn* appended to *Comments of Bell Atlantic*, December 11, 1995 at 12-13.

[16] *Id.* at 13.

[17] *Id.*

[18] *Id.* at 8. Cable companies face competition from over-the-air broadcasting, direct broadcast satellites, wireless cable, video cassettes, and interactive personal computer programming -- in contrast to the monopolies still held by the LECs for basic local switched services. Consequently, cable operators would have much less latitude to raise prices in the absence of price caps than would the LECs.

[19] *Id.*

[20] *Id.*

By no stretch of the imagination, however, can a pure price cap regime, defined as one like that for AT&T, be regarded as truly "breaking the link" between prices and costs. As I emphasized in my previous Declaration, the link between prices and costs cannot be broken because regulators cannot ignore the company's profits and losses. If profits are persistently high, regulators would be under strong pressure to revise the price cap formula. Conversely, low profit levels or losses would bring pressure to adjust the formula in the other direction.

Of crucial importance is that pure price caps as defined by Professor Kahn -- those without sharing and lower-bound adjustments -- are nevertheless subject to periodic review whereupon past performance is evaluated (including the historic or achieved rate of return) and adjustments made in the productivity factor and other elements of the formula to bring the projected rate of return in line with what regulators would regard as acceptable.

For example, an integral part of the AT&T price cap plan is periodic review, described by the Commission as including consideration of "all available measures of market and carrier performance, such as actual prices, achieved rate of return [my underlining] quality of service and technological advances."[21] As an outgrowth of the review conducted in 1992, AT&T urged that the productivity factor be eliminated for Basket 1 (which includes basic schedule switched residential services). The Commission decided to retain the 3 percent productivity factor, however, in part on grounds that AT&T did not provide "cost data (other than the generally higher costs it claims for commercial services), or other information that demonstrate that it cannot continue to match or exceed the 3 percent

[21] *Report and Order*, in the Matter of Revisions to Price Cap Rules for AT&T Corp., CC Docket No. 93-197, released January 12, 1995, ¶2. Subsequently, the Commission declared AT&T to be a non-dominant carrier, resulting in removal of the price cap regime. *Order*, in the Matter of Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, released October 23, 1995, ¶10.

productivity gains in providing basic schedule services."[22] Thus, even a pure price cap plan -- as Professor Kahn regards the AT&T regime -- can best be regarded as resembling rate-of-return regulation with a time lag, where regulatory decisions reflect past financial performance.

Another instructive example is the California PUC decision to impose a rate freeze -- pending future review -- as a substitute for the previous 5 percent productivity factor set for Pacific Bell's non-competitive intrastate services. The rate freeze is equivalent to establishing a productivity factor equal to the rate of inflation. With inflation currently at about 3 percent, the PUC's decision in effect reduces the productivity factor from 5 percent to 3 percent. The California PUC based its decision in part on grounds that "[t]his policy offers an opportunity of fair returns to shareholders [my underlining] by moving regulation of local exchange carriers in a market direction."[23] The PUC further concluded that "in an era in which the price cap formula is producing price reductions [underlining in original], the resulting declines in revenues can jeopardize a firm's ability to finance capital investments, particularly infrastructure."[24] Again, this action is not unlike what one would expect with cost-based rate-of-return regulation where regulators' decisions about future pricing policies take into account concerns about the firm's financial condition.

It is further notable that the necessary role of historical experience in price cap reviews was emphasized by Professor Harris earlier in this proceeding when he recommended to the Commission that "[T]he best indication of future productivity gains is

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[22] *Id.* ¶35.

[23] California PUC, *Interim Opinion*, I.95-05-047, December 26, 1995 at 2.

[24] *Id.* at 2, 3.

historical experience [my emphasis] over a sufficiently long period to reduce anomalous yearly fluctuations.[25] Following Professor Harris, we can easily see how costs for competitive services could be borne by monopoly ratepayers, with costs shifted to the monopoly service prior to a price cap review and resulting in lower recorded productivity gains than would have occurred in the absence of the competitive service being cross-subsidized. This historical experience would be taken into account during the price cap review, resulting in a lower revised productivity growth factor than would have been adopted in the absence of the competitive service.

An Illustrative Example. To understand more clearly the potential magnitude of cross-subsidies, even in a pure price cap regime as Professor Kahn defines it, consider a hypothetical example. Suppose that price caps are imposed on telephone company "Y," according to which prices are to be adjusted to reflect general inflation minus an annual productivity growth factor of 4 percent. Suppose, further, that in the absence of the competitive service, subsequent formal regulatory reviews of the price cap plan lead to continuation of the 4 percent growth factor as reasonable in light of the costs reported by Y as properly attributable to the services subject to price caps. Thus, in the absence of the competitive service the capped prices charged by Y are forced downward by 4 percent annually in real terms.

Now consider, in contrast, the inclusion of the competitive service whose subsidization out of monopoly revenues enables predatory pricing. Because of Y's attempt to shift some of the competitive service costs to the monopoly services, the costs reported for the services under the price cap regime are higher over time that would have been the case in the

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[25] Harris *Reply Report on LEC Price Cap Regime: United States Telephone Association*, C.C. Docket No. 94-1, June 24, 1994 at 26.

absence of the competitive service. Because of the difficulty of disentangling the costs of separate services that jointly use the LEC's transmission facilities, regulators may fail to detect the effects of Y's cost shifting. Without regulators challenging the costs attributed to price-capped services, subsequent reviews of the price cap regime show that a prospective 2 percent productivity adjustment factor is reasonable. With the 2 percent annual adjustment, instead of 4 percent in the absence of the competitive service, real prices subsequently fall by only 2 percent yearly instead of 4 percent. Thus, if the average monthly price of local price-capped services is $15.00 per subscriber at the beginning of year 1 (when the 2 percent, instead of the 4 percent, productivity factor is introduced) the price will fall to $13.56 instead of $12.23 at the beginning of the sixth year.[26] The difference of $1.33 per month is the subsidy to the competitive service per subscriber; that is, the amount by which telephone users are worse off, during the sixth year, as a consequence of the cost shift to them from the competitive service.

Moreover, this subsidy of $1.33 is subject to leveraging. Suppose that during the sixth year, 10 percent of telephone subscribers also subscribe to the LEC's competitive services. This means that the company has ten times the $1.33 or $13.30 as a per-month subsidy per competitive-service subscriber. This leveraged amount, along with the subsidies during the earlier years, would provide the LECs with a notable advantage -- all the more so during the early years when the LEC is seeking a toe-hold in the competitive market.

Concluding Remarks. In evidence filed before the Canadian Radio-television Commission nearly three years ago, Professor Kahn emphasized (in apparent contradiction to his views in this proceeding) that no price cap plan of which he was aware truly breaks

[26] $12.23 = $(0.96)^5$ x $15.00; $13.56 = $(0.98)^5$ x $15.00.

the link between prices and costs. Because his earlier statement summarizes so well my own views, I can do no better than to conclude with his earlier words:

> To be sure, we have to my knowledge yet to see a scheme of pure price regulation. All of the schemes of which I am aware contemplate review within a few years of how they are working. Since the indexation formulas are inevitably based on estimates -- in particular, estimates of how the costs of the regulated companies may be expected to behave relative to the basis for indexation (such as the Consumer or GNP price index) -- it is difficult to imagine a scheme under which the government would surrender for all time the option of testing the accuracy of those estimates against actual experience. Such reexaminations have typically involved some correction of the formula if profits prove to be too high or too low -- in which event price regulation turns out to resemble rate of return regulation.[27]

The Deregulation of Competitive Services.

Were anticompetitive cross-subsidization no threat, it would be easy to argue that competitive services offered by monopoly carriers should be deregulated. Thus, Professors Gilbert and Harris assert that incumbent LECs (as well as all other suppliers) should be permitted to introduce "new services or implement price changes for existing price-capped services with one-day notice and no cost support provided existing services remain available to customers."[28] Professor Kahn emphasizes that "it seems superfluous to do more than mention it; but, clearly, as services become subject to effective competition, the proper solution is simply to deregulate them and, in so doing, eliminate all regulatory asymmetries and distortions of competition between the LECs and their rivals."[29] He goes on to state that "[i]t is difficult to see any justification, for example, for subjecting Bell Atlantic's

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[27] Kahn, *Review of Regulatory Framework*, Canadian Radio-Television and Telecommunications Commission, Telecom Public Notice CRTC 92-78. Filed on behalf of AGT Limited, April 13, 1993 at 21. Emphasis in original.

[28] *Affidavit of Richard J. Gilbert and Robert G. Harris* at 3, appended to *Comments of Bell Atlantic*, December 11, 1995.

[29] Kahn, *supra* at 13.

proposed new video dialtone service to price cap regulation -- all the more so because it will compete with the existing services of the incumbent cable companies."[30]

Critical here, however, is the distinction between a price ceiling and a price floor. Because cross-subsidization is a threat, as I have previously shown, the price ceiling on monopoly services is critical to preventing prices from being raised to subsidize competitive entrants; in parallel, a price floor on competitive services is necessary to prevent prices from falling below the incremental cost for those services. A striking example is the competitive video dialtone service to which Professor Kahn refers. Video dialtone proposals by LECs filed in their Section 214 applications demonstrated clearly the threat of cross-subsidization, as shown in the opposing filings of the cable industry and other parties.[31]

Economists generally agree that the proper test for determining whether a service is being subsidized is whether its revenues cover at least incremental cost. Thus, Professors Gilbert and Harris note that "[f]or those services remaining in price caps, the only restriction in downward pricing flexibility that serves a valid social purpose is a price floor based on incremental cost to protect against anticompetitive pricing."[32] They go on to conclude that "[s]ubject to an incremental cost-based price floor, LECs should also be allowed to offer alternative pricing plans such as term and volume discounts."[33]

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[30] *Id.* at 14.

[31] See, for example, *Affidavit of Leland L. Johnson* appended to *Opposition to Direct Case*, National Cable Television Association, Inc., In the Matter of Amendment to The Bell Atlantic Telephone Companies Tariff No. 10, Video Dialtone Service, November 30, 1995.

[32] Gilbert and Harris, *supra* at 13.

[33] *Id.* at 14.

All this raises the key question: with prices properly subject to an incremental cost pricing floor, and with cross-subsidization remaining a threat, how can regulators assure that prices at least cover incremental cost if the LECs are given the freedom to file tariffs on one-day notice with no cost support? Obviously, regulators cannot provide such assurance. As I emphasized in my previous comments, the Commission -- as well as state regulators -- must continue to oversee the assignment of costs between monopoly and competitive services until the monopoly service has evolved into a competitive one unable to support subsidies to other services.

Economists and others agree that competition and deregulation is the goal in all markets. The root problem is one of timing. Prior to deregulation, to repeat from Professors Gilbert and Harris, "the only restriction in downward pricing flexibility that serves a valid public policy purpose is a price floor based on incremental cost to protect against anticompetitive pricing." Consequently, monopoly carriers must continue to bear the burden of demonstrating that their prices in competitive markets meet the incremental cost test.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on January 2, 1996

Leland L. Johnson

CERTIFICATE OF SERVICE

I, Staci M. Pittman, do hereby certify that on this 7th day of February, 1996, copies of the foregoing **"Reply Comments of the National Cable Television Association."** were delivered by first-class, postage pre-paid mail upon the attached list:

Staci M. Pittman

Staci M. Pittman

John Nakahata, Esq.
Office of Chairman Reed E. Hundt
Federal Communications Commission
1919 M Street, N.W., Room 814
Washington,, D.C. 20554

Todd Silbergeld, Esq.
Office of Commissioner Andrew C. Barrett
Federal Communications Commission
1919 M Street, N.W., Room 826
Washington,, D.C. 20554

Richard Welch, Esq.
Office of Commissioner Rachelle B. Chong
Federal Communications Commission
1919 M Street, N.W., Room 844
Washington,, D.C. 20554

James R. Casserly, Esq.
Office of Commissioner Susan Ness
Federal Communications Commission
1919 M Street, N.W., Room 832
Washington,, D.C. 20554

Lauren J. Belvin, Esq.
Office of Commissioner James H. Quello
Federal Communications Commission
1919 M Street, N.W., Room 802
Washington,, D.C. 20554

Regina Keeney, Esq.
Chief, Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington,, D.C. 20554

A. Richard Metzger, Jr., Esq.
Deputy Bureau Chief, Operations
Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington,, D.C. 20554

James D. Schlichting, Chief
Policy and Program Planning Division
Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 544
Washington,, D.C. 20554

Kathleen Levitz, Esq.
Deputy Bureau Chief, Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington,, D.C. 20554

Mary Beth Hess, Esq.
Deputy Bureau Chief, Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington,, D.C. 20554

Dan Gonzalez, Esq.
Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington,, D.C. 20554

Melissa Newman, Esq.
Counsel to Bureau Chief, Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington, , D.C. 20554

Robert M. Pepper
Chief, Office of Plans & Policy
Federal Communications Commission
1919 M Street, N.W., Room 822
Washington,, D.C. 20554

International Transciption Services
Federal Communications Commission
2100 M Street, N.W., Room 140
Washington,, D.C. 20037